X-Ray Reflectors

DISTRIBUTED BY

INTERSTATE ELECTRIC CO.

NEW ORLEANS, LA.

SECOND 22 EDITION

NATIONAL X-RAY REFLECTOR COMPANY

NEW YORK CHICAGO LOS ANGELES

National X-Ray Reflector Co.

Chicago

March, 1923

Serial 320

X-Ray. TRADE MARK

REFLECTORS

for

Store Window Lighting
Show Case Lighting
Factory Lighting
Flood Lighting

Code Address
XRAYREFCO
CHICAGO

BENTLEY'S CODE
PREFERRED

Catalog No. 22

(Second Edition)

An X-Ray Reflector for Every Lighting Need

X-RAY REFLECTORS

DESCRIPTION

For efficiency in directing and controlling light, and for durability, X-RAY reflectors have no equal. Their brilliancy is everlasting.

This remarkable efficiency, the highest ever known, is due to the method of construction and the process used in the manufacture.

They are made of one piece tough blown glass, having scientifically designed corrugations to break up and diffuse the light rays, thus eliminating all streaks and unevenness in the lighting.

The reflecting surface is pure silver and is protected by a special green backing which absolutely prevents cracking, peeling or blistering.

The inside of the reflector is highly finished, so that dust cannot adhere to it. The saving in maintenance and lamp breakage is at once apparent, because neither the lamp nor reflector are removed for cleaning, but merely require wiping with a dry cloth.

INSTALLATION

Recommendations will be made and specifications written to cover the installation of X-Ray Reflectors for efficient and satisfactory illumination of any area where this product may be properly applied.

Individual members of a corps of more than thirty experienced engineers are located at various principal cities to promptly render such expert assistance, for which there is no charge or obligation.

Many lighting problems where the requirements have been of such a nature, and the physical conditions of such unusual design as to prove quite perplexing, have been solved by the Engineering Department with complete satisfaction to all concerned.

This engineering service is yours for the asking.

GUARANTEE

X-Ray Reflectors have always been guaranteed to give satisfactory service indefinitely, so long as properly used. Look closely for the X-Ray trade-mark. It is your guarantee.

GENERAL CONDITIONS

The package or shipping weights given in this catalog are approximate, being subject to slight variations.

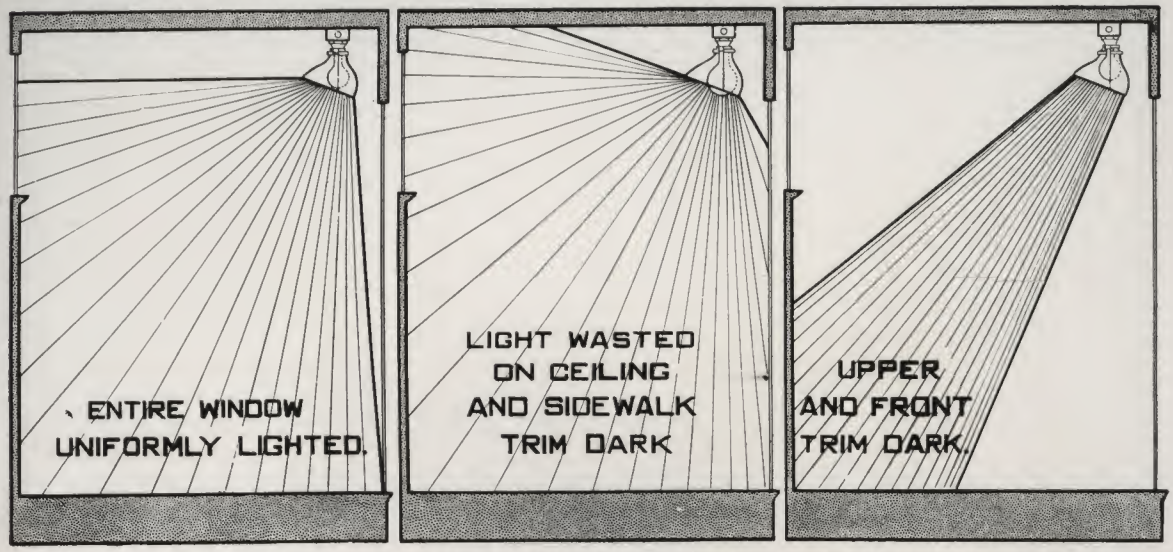
Reflectors are ordinarily shipped in cartons; at our discretion, however, in a few exceptional cases, reflectors are packed in barrels.

All goods are inspected and packed by experienced packers and delivered to the transportation company in good condition. No claim for breakage in transit will be allowed by us, but must be made to the transportation company.

We will not recognize any charge nor will we allow any credit for goods returned if original shipment is made according to purchaser's order and instructions.

No returned goods will be accepted unless accompanied by "Returned Goods Order," which can be obtained only from CHICAGO OFFICE. The date and number of the original order must accompany the request to return material. Returned shipments will be made in accordance with instructions on the authorization slip.

Proper Use of X-Ray Reflectors



Lamp in correct position. Proper holder in use and correct lamp in place.

Lamp too far down in reflector. Wrong holder in use or too large a lamp in place.

Lamp too far up in reflector. Wrong holder in use or too small a lamp in place.

The wonderful results obtained with X-Ray Reflectors are only secured by using the holder and lamp specified *on the Reflectors.*

Fac-simile of style of Label Used

On Every X-Ray Reflector

Focal Point Reflectors

The focal point of an X-Ray Reflector is the imaginary point at which the center of luminosity of the lamp filament must be placed to cause the reflector to reflect the light rays so as to produce the results for which it was designed.

All X-Ray Reflectors are Focal Point Reflectors, in other words, of scientifically correct design.

The products shown in this catalog are covered by U. S. Letters Patent shown below. Infringers will be prosecuted. Other patents pending. Foreign patents granted and pending.

PATENTS

NATIONAL X-RAY REFLECTOR CO.

May 21, 1907	May 27, 1913	Dec. 14, 1915	Jan. 2, 1917
Oct. 8, 1907	April 21, 1914	Feb. 29, 1916	Jan. 2, 1917
Nov. 26, 1907	April 6, 1915	Feb. 29, 1916	Jan. 16, 1917
May 17, 1910	April 6, 1915	July 11, 1916	Aug. 7, 1917
April 4, 1911	Dec. 14, 1915	Sept. 5, 1916	Sept. 18, 1917

X-Ray. TRADE MARK.

Trade Mark Registered U. S. Patent Office

Show Window Lighting

KEEN competition demands the use of the most efficient equipment in window lighting, as well as in other departments of a commercial enterprise.

There are many sorts of ways to light show windows and the market offers many appliances for the purpose. Each show window presents a distinct problem for the merchant and lighting man. To illustrate the importance of using the correct shape of reflector of the most efficient type, it has often been found that by replacing old equipment by properly designed reflectors, the light on the goods can be doubled without increase in current.

The only reflectors to use for show windows, are those which have been designed especially for this class of lighting. Present practice in show window illumination indicates that the units for one lamp only are to be preferred to reflectors with more than one lamp—such as troughs, clusters, etc. The individual reflector allows absolute control of the light given off by the lamp and delivers it on to the goods within certain definite angles, thus avoiding a waste of light on the sidewalk and on the window top.

How to Select the X-Ray Window Reflector

THE number of reflectors to use is optional with the merchant. No set rule can be established. It is influenced by a number of conditions, such as the brightness of neighboring windows, the intensity of the street illumination, kind of goods on display, color and nature of background in window, and largely the extent of the merchant's realization of the advertising and selling value of bright windows.

Spacing

The closer the reflectors are spaced, the brighter the window becomes, and vice versa.

In average installations the spacing, or distance from center to center along the glass, is about 18 to 24 inches.

For large windows use the Jove No. 600 or Jupiter No. 610 with 150-Watt Mazda "C" Lamps.

For small windows use the Scoop No. 778 or Hood No. 731 with 75-Watt Mazda "C" Lamps.

The accompanying table makes easy the selection of the correct reflector for any type of window. The example below will demonstrate how simple it is to apply the table to your own problem. To start with, knowledge of three things is necessary—*Height reflectors are to be placed; Depth of window from glass to background; and Height to top of trim or background.*

WINDOW IN FT.		HEIGHT OF DISPLAY OR SOLID BACKGROUND IN FT.							
HEIGHT	DEPTH	0-1	2-3	4-5	6-7	8-9	10-11	12-13	14-15
4-5	1-2	731	731	778					
"	3	731	778	778					
"	4	778	778	778					
"	5	778	778	778					
6-7	2	731	731	778	778				
"	3-4	731	778	778	778				
"	5-6	778	778	778	778				
"	7-8	778	778	778	778				
8-9	2-3	610	610	610	600	600			
"	4-5	610	610	600	600	600			
"	6-7	610	600	600	600	600			
"	8-9	600	600	600	600	600			
"	10-11	600	600	600	600	600			
10-11	3-4	610	610	610	610	600	600		
"	5-6	610	610	600	600	600	600		
"	7-8	610	600	600	600	600	600		
"	9-10	600	600	600	600	600	600		
"	11-12	600	600	600	600	600	600		
12-13	4-5	610	610	610	610	610	600	600	
"	6-7	610	610	610	600	600	600	600	
"	8-9	610	610	600	600	600	600	600	
"	10-11	610	600	600	600	600	600	600	
"	12-13	600	600	600	600	600	600	600	
"	14-15	600	600	600	600	600	600	600	
14-15	4-5	610	610	610	610	610	610	600	600
"	6-7	610	610	610	610	600	600	600	600
"	8-9	610	610	610	600	600	600	600	600
"	10-11	610	610	600	600	600	600	600	600
"	12-13	610	600	600	600	600	600	600	600
"	14-15	600	600	600	600	600	600	600	600

Example

Dimensions of window—10 ft. high, 6 ft. deep and 7 ft. trim.

Refer to table and locate 10 ft. in left hand column, corresponding to the "window height." At this window height locate 6 ft. in the next column to the right, corresponding to the "window depth." Now move along to the right to 7 ft., corresponding to the height of the display or background. The No. 600 (Jove) reflector indicated in this space is the reflector that should be used.

The JUPITER
No. 610

Package 12

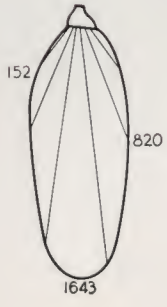
Use X-Ray Fittings on X-Ray Jobs

For 150-Watt Mazda "C" Lamp

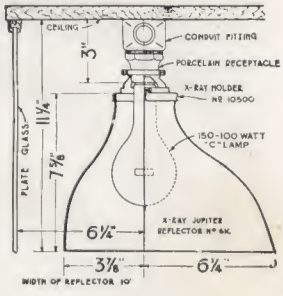
The "Jupiter," a more concentrating reflector than the "Jove," is used for the brilliant illumination of show windows whose height equals about twice their depth. A high temperature backing is used which indefinitely withstands the intense heat of the Madza "C" Lamps. It has dimensions similar to the "Jove," and uses the same shade holder. Hence, when used together, alternated, they make a neat appearance in the window. The "Jove" or "Jupiter" will earn its initial cost over and over again in increased sales and saving in current. The 100-Watt Mazda "C" Lamp may be used in this Reflector.

Holder 3¼ inches, Form "A"
Width 10 inches
Height including neck 7⅝ inches
Depth front to back 10⅛ inches

Code Word—**JUPITER**
Standard package quantity 12
Package weight 35 pounds
Weight of reflector 2¼ pounds



Diagrams showing distribution of light from the No. 610 Reflector with 150-watt lamp, and one of the many possible methods of installing this reflector. *(See pages 18 and 19 for fittings.)*



For Color Lighting see pages 8 and 9

The JOVE
No. 600

Package 12

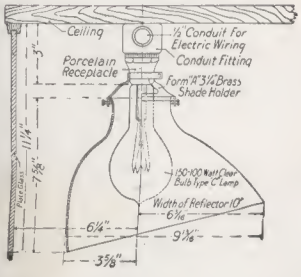
Use X-Ray Fittings on X-Ray Jobs

For 150-Watt Mazda "C" Lamp

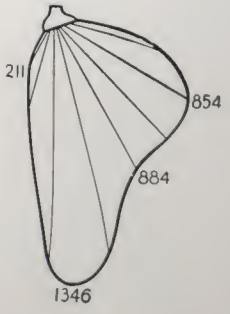
The "Jove" is a scientifically correct window lighting reflector with a high temperature backing, designed especially for the 150 or 100-watt Mazda "C" lamp. This reflector and lamp give the highest intensity of uniform store window illumination ever produced with 150 watts. Its shape completely hides the intensely bright lamp filament and the special corrugations properly break up and distribute the light. The "Jove" has been designed for windows of average proportions, those whose height is one to one and one-half times their depth; reflection from glass or mirror backgrounds is eliminated.

Holder 3¼ inches, Form "A"
Width 10 inches
Height including neck 7⅝ inches
Depth front to back, 9 13/16 inches

Code Word—**JOVE**
Standard package quantity 12
Package weight 35 pounds
Weight of reflector 2¼ pounds



Diagrams showing distribution of light from the No. 600 Reflector with 150-watt lamp, and one of the many possible methods of installing this reflector.
(See pages 18 and 19 for fittings.)



For Color Lighting see pages 8 and 9

No. 66
COLOR-RAY

Package 10

For Color Lighting
in Show Windows

(Patent applied for)

For X-Ray Jove and Jupiter Reflectors

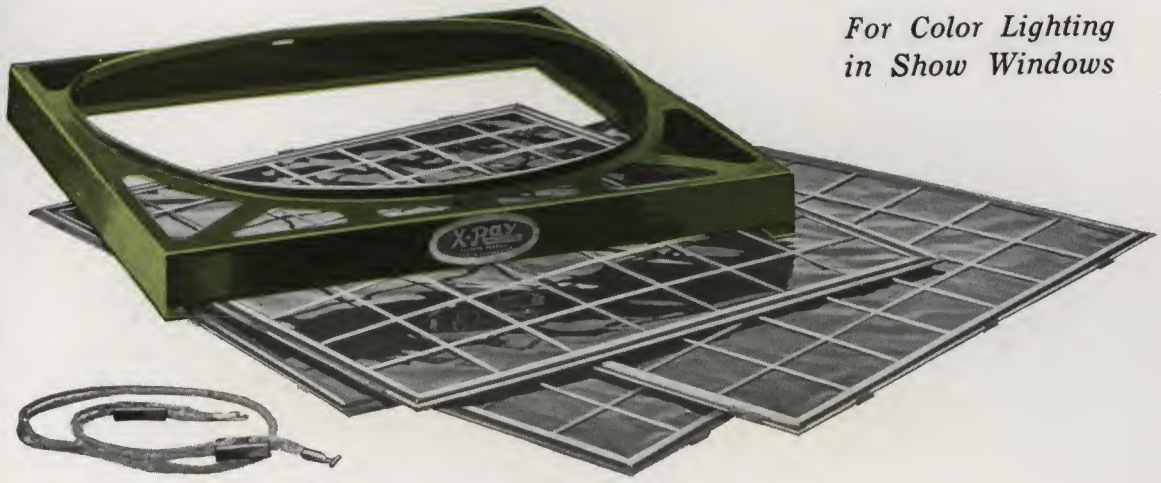
SHOW window lighting has been developed in intensity to a point where it is no longer practical to further increase the intensity of light and in this way secure an advantage over the merchant in an adjacent location by such means. It remains, therefore, to secure the contrast desired by other methods. Naturally enough, that show window which may be lighted with a different color or tint from those immediately surrounding it, stands out prominently and attracts the possible buyer.

The Color-Ray unit is fitted on the bottom of either the X-Ray Jove or Jupiter reflector. It consists of a frame, which holds a slide of colored gelatin, and four slides, one each of red, amber, green and blue. The gelatin is supported in the slide by a screen of fine steel strips. The color frame has been so designed that there is ample ventilation for the complete unit.

Exact specifications for Show Window Lighting furnished without charge or obligation.

No. 66 COLOR-RAY

For Color Lighting in Show Windows



Description and Specifications

THE colored gelatin supplied with Color-Ray units is the only medium that has yet been found that will not fade very rapidly under the heat of the Mazda "C" lamp. The gelatin is non-inflammable, and the standard colors supplied have been selected by a committee of lamp and lighting men.

By the use of the various colored slides, which are furnished as a part of the No. 66 Color-Ray unit, almost any combination of colors can be secured. Sunlight effects, the atmosphere of moonlight, delicate pinks, greens, etc., can be obtained at the will of the artist who plans the display.

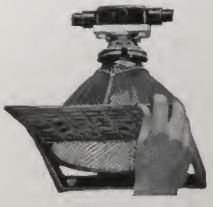
Color-Ray units may be installed in a few minutes without removing the lamps or disturbing the reflectors. The harness is slipped over the mouth of the reflector and the color frame attached by a small device which is provided on the harness.

The slides on the asbestos cord are then drawn up so that the color frame fits tightly underneath the reflector. No further adjustment is needed.

No. 66 Color-Ray Unit Complete Includes

One color frame; harness for attaching to reflector; four color screens, one each of the standard shades of red, amber, green and blue. Each No. 66 Color-Ray Unit is packed complete in carton.

STANDARD PACKAGE, TEN CARTONS



The SCOOP
No. 778

Package 24

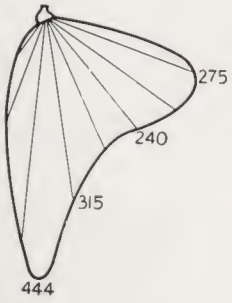
Use X-Ray Fittings on X-Ray Jobs

For 75-Watt Mazda "C" Lamp

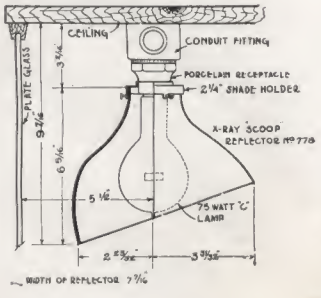
The Scoop is designed for use with the 75-watt Mazda "C" lamp to illuminate small windows of depth equal to height, and where trim is made high in back of windows. No light will be wasted on the ceiling of the window or sidewalk. Like all X-Ray reflectors it is of one-piece mirrored glass. It is pure silver plated, and corrugated to break up the light rays.

Holder 2 1/4 inches, Form "O"
Width 7 7/16 inches
Height including neck 6 5/16 inches
Depth front to back 6 11/16 inches

Code Word—**SCOOP**
Standard package quantity 24
Package weight 35 pounds
Weight of single reflector 1 pound



Diagrams showing distribution of light from the No. 778 Reflector with 75-watt lamp and one of the many possible methods of installing this reflector.
(See pages 18 and 19 for fittings.)



Caution: Color-Ray cannot be used with Scoop Reflector

The HOOD
No. 731

Package 16

Use X-Ray Fittings on X-Ray Jobs

For 75-Watt Mazda "C" Lamp

The Hood reflector is designed for use with the 75-watt Mazda "C" Lamp to light low shallow windows as efficiently as the "Jupiter" lights higher windows of the same type. The design of the "Hood" reflector is such as to produce a high concentration in the window, cutting the light off sharply at the window plate. The "Hood" closely follows correct window lighting principles.

Holder 2¼ inches, Form "H" — *Code Word*—**HOOD**
Width 8⅞ inches — **Standard package quantity 16**
Height including neck 6 3/16 inches — **Package weight 26 pounds**
Depth front to back 8⅞ inches — **Weight of single reflector 1¼ pounds**

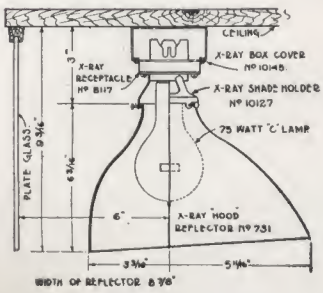
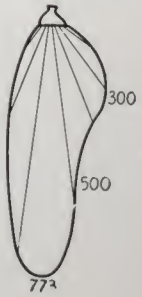


Diagram showing distribution of light from the No. 731 Reflector with 75-watt lamp and one of the many possible methods of installing this reflector. *(See pages 18 and 19 for fittings.)*



Caution: Color-Ray cannot be used with Hood Reflector

The SCOOP, JR.

No. 7

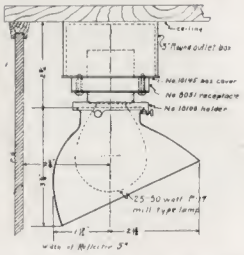
Package 40

For 50-Watt Mill Type (P-19 Bulb) Mazda "B" Lamps

Scoop, Jr. is a small edition of the No. 778 Scoop and is designed for use with the 50-watt Mill type Mazda "B" lamp. It fills a long need for a very small reflector to light deep windows less than five feet high and for large display cases used inside many stores.

Holder 2¼ inches Form "O"
Width 5 inches
Height, including neck, 3⅞ inches
Depth, front to back, 4⅞ inches

Code Word---SCOOP, Jr.
Standard Package Quantity 40
Package weight 22 pounds
Weight single reflector 5 ounces



Diagrams showing distribution of light from the No. 7 Reflector with 50-watt lamp and one of the many possible methods of installing this reflector.
(See pages 18 and 19 for fittings.)

The HOOD, JR.

No. 11

Package 40

For 50 Watt Mill Type (P-19 Bulb) Mazda "B" Lamp

The Hood, Jr. is a smaller size of the Hood No. 731 reflector. It is designed for use with the 50-watt Mill type Mazda "B" lamp, and will light shallow windows less than five feet high as effectively as the Hood and Jupiter light the larger windows. Also used for high, shallow display cases.

Holder 2¼ inches, Form "O"
Width 5½ inches
Height, including neck, 3⅜ inches
Depth, front to back, 5⅞ inches

Code Word—HOOD, Jr.
Standard Package Quantity 40
Package weight 24 pounds
Weight single reflector 6 ounces

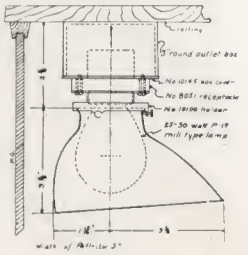


Diagram showing distribution of light from the No. 11 Reflector with 50-watt lamp and one of the many possible methods of installing this reflector.
(See pages 18 and 19 for fittings.)

SHOW WINDOW FLOOD LIGHT

No. 33

(With Center Spot Beam)

Package 1

For 200-Watt Standard Mazda "C" Lamp

The No. 33 floods a window with light and concentrates a spot beam in the center of this "flood." This spot beam does not have a sharp cut off like a "spot light" but fades away gradually.

It is an economical and effective means of lighting small windows where no other reflector equipment is used.

Regularly furnished with color frame as shown with 4 pieces of colored gelatin (red, blue, green and amber) same as supplied with No. 66 Color Ray. Change in direction of light is adjustable but the flood and beam of light are always of the same spread.

Height 11 inches — Standard Package Quantity One
Width of reflector 10 inches — Package weight 12 pounds
Width of color frame 11 5/8 inches — Weight of unit 4 pounds

Cut at right shows Window FLOOD Light with Color Frame removed. Cross section diagram at left shows how spot beam is concentrated within the flood of light.

SHOW WINDOW SPOTLIGHT

No. 10307

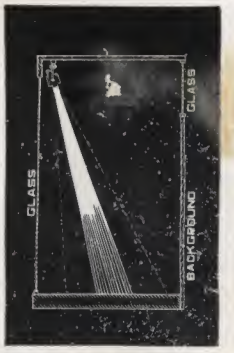
Package 1

For 250 Watt Stereopticon or Floodlighting Mazda "C" (G-30 Bulb) Lamp

No. 10307 spotlight with a 250-watt lamp attracts attention to some particular article by concentrating an intense spot of light upon it. It is wired with a plug and is ready to attach to a regular 3¼-inch shade holder or can be bolted to any supporting surface.

The beam of light can be focused from 12 to 28 degrees. Changes in direction, or size of the spot of light are quickly adjustable from outside the unit. For colored light, gelatin color mediums are easily inserted.

Height 9 inches	Standard Package Quantity One
Depth 6½ inches	Package weight 18 pounds
Width 6 inches	Weight of Spotlight 6 pounds



At the left is shown the Spotlight ready to be bolted to a supporting surface using a crowfoot. At the right is a diagram showing beam of light at 12°. Dotted lines show 28 degree beam.

PORTABLE FOOTLIGHTS
For Show Windows

Nos. 10308 and 10309

For 75-Watt and 100 or 150-Watt Mazda "C" Lamps

Portable Footlights used with overhead lighting bring all details of the display into sharper relief and eliminate the shadows ordinarily present with only overhead lighting.

This is especially desirable in windows where wax figures or forms are used, where furniture, automobiles or similarly large materials are displayed. Very effective contrast is had in some windows by using footlights alone without overhead lighting. Practical for lighting small stages or platforms in schools, lodges and small auditoriums.

The housing is solidly constructed of light metal and can be finished Olive Green, Dark Bronze, Gold Bronze or Ivory. Inner surface is always finished Aluminum Bronze. All Footlights furnished unassembled without wire.

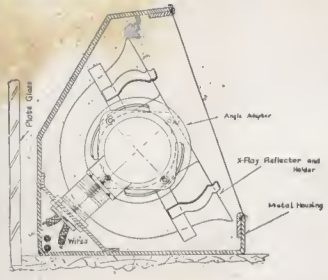
No. 10308
For 75-watt lamps
on 12-inch centers.

No. 10309
For 100 or 150-watt lamps
on 12-inch centers.

Standard lengths 4 feet, 8 feet or 16 feet.

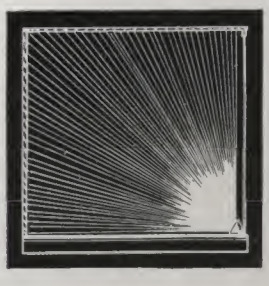
Height 5½ inches
Weight per 4-foot section 17 pounds

Width at bottom 4¾ inches
Packed 35 pounds



With catalog No. of Portable Footlights specify length and finish. Standard Olive Green furnished unless specified.

Diagrams showing dimensions and distribution of light from the X-Ray Portable Footlight, also the location near the plate glass in the Show Window.



The POKE BONNET
No. 750

Package 8

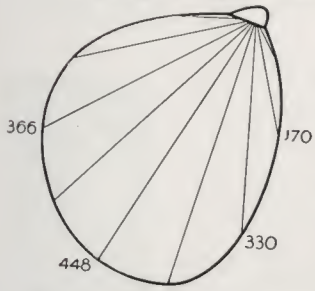
For 25-, 40-, 50- and 60-Watt Mazda "B" Lamps and 50-Watt Milk-White Mazda "C-4" Lamp

Reflector supplied with holder, attachment plug, sockets, complete

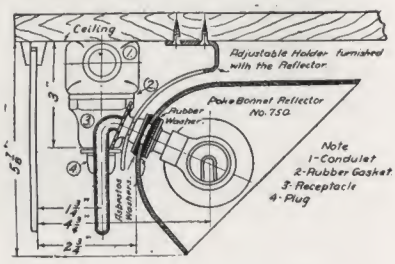
The Poke Bonnet takes two lamps in a horizontal position and is provided with an adjustable fork permitting very easy adjustment to any desired angle, so as to get the maximum benefit from the great reflecting surface. This adjustable holder is easily attached to either ceiling or transom bar. This is an ideal reflector for use in lighting low, deep, show windows and large display cases, pictures, rugs, etc.

Special Adjustable Holder
Length 14 inches
Depth 7 inches
Height 3 5/16 inches

Code Word—**BONNET**
Standard package quantity 8
Package weight 24½ pounds
Weight of single reflector with fittings 3 pounds



Diagrams showing distribution of light from the No. 750 Reflector with two 40-watt lamps, and one of the many possible methods of installing this reflector.



The MIDGET
No. 515

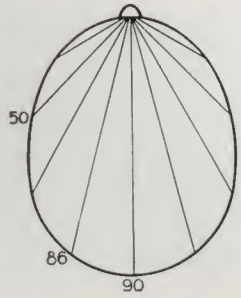
For 25-Watt Mazda "B" Tubular Lamps

Reflector supplied with Holder

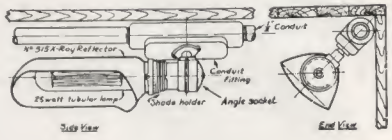
The Midget requires no special fittings as will be noted from the details above. It can be easily installed with conduit, brass tubing or with metallic moulding. "Midgets" placed one foot apart will give a very brilliant lighting effect.

Holder 1⅝ inches supplied with reflector
Length 6¼ inches
Height 1¾ inches
Across mouth 2⅞ inches

Code Word—**MIDGET**
Standard package quantity 36
Package weight 18 pounds
Weight of single reflector ¼ pound



Diagrams showing distribution of light from the No. 515 Reflector with 25-watt lamp, and one of the many possible methods of installing this reflector.



Direct Lighting Reflectors *for* "B" and "C" Lamps

No. 710

No. 700

No. 696

For 200-Watt Mazda "C" Lamp

Diameter 11½ inches
Height 6¾ inches
Holder 3¼ inches, Form "A"
Standard package 6
Package weight 21½ pounds
Weight of single reflector 2½ pounds
Code Word—**CROWN**

Light can be controlled with X-Ray reflectors to give any desired result.

Use No. 710 wherever an intense light is desired in a small area, such as over machinery, benches, tables.

For 150-100-Watt Mazda "C" Lamps

Diameter 10 inches
Height 5½ inches
Holder 2¼ inches, Form "H"
Standard package 18
Package weight 38 pounds
Weight of single reflector 1¼ pounds
Code Word—**CARROT**

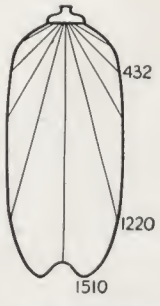
This semi-distributing reflector is suited to use over type cases, desks, counters, display tables, and in fact all places where an opaque fairly concentrating type of reflector is desirable.

For 75-Watt "C" Lamp

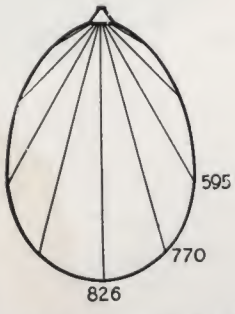
Also for 40-50-60-Watt "B" Lamps

Diameter 8 inches
Height 5 inches
Holder 2¼ inches, Form "O"
Standard package 24
Package weight 40 pounds
Weight of single reflector ½ pound
Code Word—**RADISH**

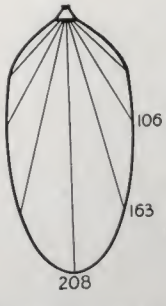
A very efficient reflector, giving a concentrated distribution of light for billiard tables and small show windows, especially those in which jewelry, cigars, etc., are displayed.



DISTRIBUTION OF LIGHT FROM THE NO. 710 REFLECTOR, WITH A 200-WATT MAZDA "C" LAMP.



DISTRIBUTION OF LIGHT FROM THE NO. 700 REFLECTOR, WITH A 150-WATT MAZDA "C" LAMP.



DISTRIBUTION OF LIGHT FROM THE NO. 696 REFLECTOR, WITH A 40-WATT MAZDA "B" LAMP.

X-Ray Fittings

Receptacles, Box Covers and Holders

Regular Type Clamping Holders

For X-Ray Reflectors Nos. 610, 600, 570, 575 and 710

X-Ray Holders designed to securely clamp neck of reflector with equal pressure on all sides. Set screws are eliminated.

This Holder will not Work Loose from Vibration.

Form "A"—3¼-inch Holder **No. 10400,** for brass shell socket.

Form "A"—3¼-inch Holder **No. 10500,** for any porcelain or weather-proof socket.

Special Holders for X-Ray Receptacles Only (Fig. B.)

Form "O"—2¼-inch Holder **No. 10100,** for X-Ray receptacles.

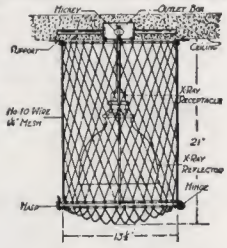
Form "A"—3¼-inch Holder **No. 10300,** for X-Ray receptacles.

Form "H"—2¼-inch Holder **No. 10127,** for X-Ray receptacles.

Note: Fig. B shows top view of the three special X-Ray Reflector holders, showing method of holding in place by two screws which hold X-Ray receptacle in fitting.

Wire Guards for X-Ray Reflectors

The following wire guards are substantially made and very practical for gymnasiums, shops, etc. The bottom is hinged so as to expose lamp and reflector for cleaning and renewals. Made of No. 10 iron wire, 1¼ diamond mesh and ¼-inch iron frame.



No. 10261
Standard Finish; Tin Plated

No. 10258—For No. 570 X-Ray reflector installed against ceiling. Size, 12 inches diameter; 19¾ inches high.

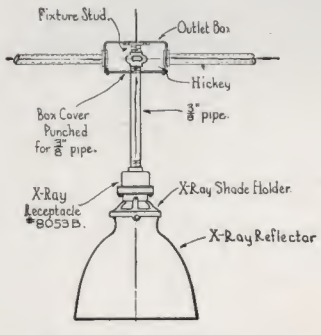
No. 10261—For No. 575 X-Ray Reflector installed on 6-inch stem. Size, 13½ inches diameter; 21 inches high.

No. 10262—For No. 580 X-Ray Reflector installed on 6-inch stem. Size, 16 inches diameter; 24 inches high.

X-Ray Fittings

A complete X-Ray lighting unit can be made up (see Fig. A) to cover standard outlet boxes with reflector, correct holder, receptacle and box cover.

The devices shown here are economical, compact, correctly designed and easily installed. The holders are made of stamped steel, and are remarkably rigid. The holder is secured in place by two screws which thread into the box cover and serve to keep the porcelain receptacle in position.



Method of Rigid Suspension from Standard Outlet

These covers, receptacles and holders can be used in show windows, for cove lighting units, etc.

X-Ray Fittings

Receptacles, Box Covers and Holders

An X-Ray ceiling fitting, with pull switch attachment, to fit standard outlet boxes and give control over each individual lamp, is manufactured for use with all types of direct lighting reflectors. Can be supplied with or without switch.

Three special holders of the "O," "H" and "A" types, designed to fit X-Ray receptacle, are available for use with this ceiling unit.

The following numbers apply to the fitting in its various combinations, but **do not** include reflectors.

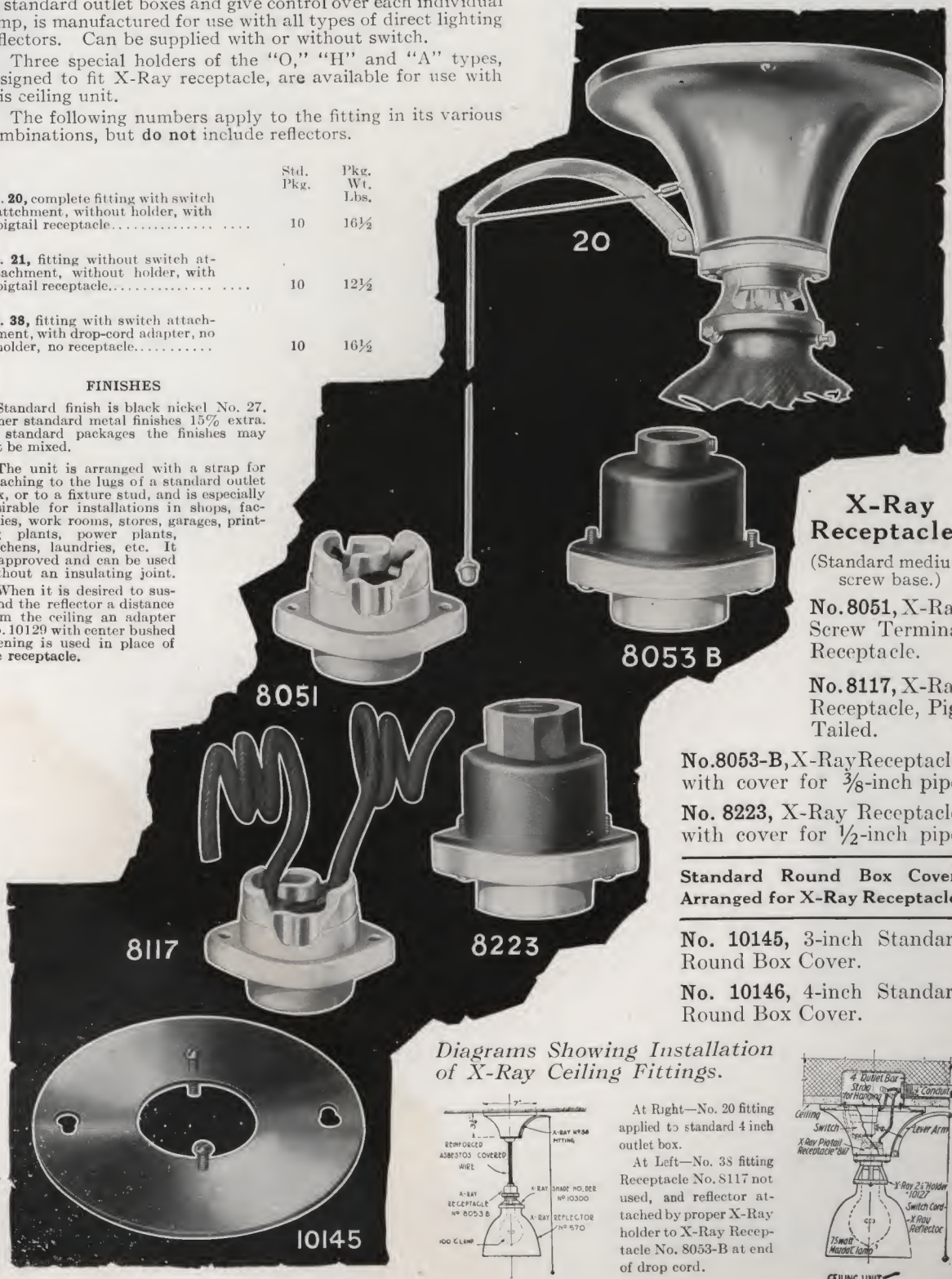
	Std. Pkg.	Pkg. Wt. Lbs.
No. 20, complete fitting with switch attchment, without holder, with pigtail receptacle.....	10	16½
No. 21, fitting without switch attachment, without holder, with pigtail receptacle.....	10	12½
No. 38, fitting with switch attachment, with drop-cord adapter, no holder, no receptacle.....	10	16½

FINISHES

Standard finish is black nickel No. 27. Other standard metal finishes 15% extra. In standard packages the finishes may not be mixed.

The unit is arranged with a strap for attaching to the lugs of a standard outlet box, or to a fixture stud, and is especially desirable for installations in shops, factories, work rooms, stores, garages, printing plants, power plants, kitchens, laundries, etc. It is approved and can be used without an insulating joint.

When it is desired to suspend the reflector a distance from the ceiling an adapter No. 10129 with center bushed opening is used in place of the receptacle.



X-Ray Receptacles

(Standard medium screw base.)

No. 8051, X-Ray Screw Terminal Receptacle.

No. 8117, X-Ray Receptacle, Pig-Tailed.

No. 8053-B, X-Ray Receptacle, with cover for ⅜-inch pipe.

No. 8223, X-Ray Receptacle, with cover for ½-inch pipe.

Standard Round Box Covers Arranged for X-Ray Receptacles

No. 10145, 3-inch Standard Round Box Cover.

No. 10146, 4-inch Standard Round Box Cover.

Diagrams Showing Installation of X-Ray Ceiling Fittings.

At Right—No. 20 fitting applied to standard 4 inch outlet box.

At Left—No. 38 fitting Receptacle No. 8117 not used, and reflector attached by proper X-Ray holder to X-Ray Receptacle No. 8053-B at end of drop cord.

Show Case Lighting

THE show case as used today is in reality a miniature show window, rather than a case for the storing of merchandise. Hence, its illumination should receive as careful consideration as the show window lighting. The lighting requirements are very nearly the same except that in the show case lighting it is not only necessary to conceal the lamp from the view of the customer, but it is essential to shield the eyes of the clerk from glare as well.

From the practical standpoint, show case lighting equipment must be very small and unobtrusive, so that it will offer the least possible obstruction to the clear view of the contents of the case. The heat generated from the lamps must be as low as possible, and equipment must be properly constructed and installed so as to eliminate all fire hazards.

X-Ray Scoopette reflectors and fittings were designed with the above lighting requirements and practical considerations as a basis.

The SCOOPETTE
No. S-200

Package 10

Complete Installations Furnished

(*See next page*)

For 15- and 25-Watt G-18½ Medium Screw Base Mazda "B" Lamp

The Scoopette was designed for show case lighting. Any show case can be lighted with it. This unit offers the least possible obstruction to a clear view of the interior of the case, gives even and efficient illumination with complete concealment of the lamp, low current consumption and maintenance, smallest amount of heat and absolute safety from fire risks. Scoopette No. S-200 includes reflector, socket and cover, housing for Reflector, and special clip to hold Reflector in place.

Height, including socket, 4½ inches
Depth, front to back, 3⅝ inches
Finish, Black Nickel

Weight, 8 ounces
Standard package 10
Package Weight, 7 pounds

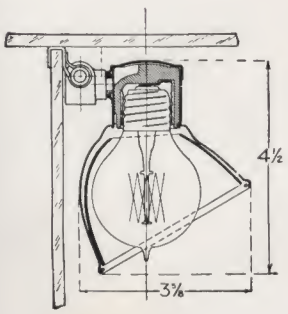


Diagram showing the No. S-200 Scoopette for 15- or 25-Watt lamp, and one of the methods of installing this reflector.

See next page for description of Complete Equipments.

SEE PAGES 26 AND 27 FOR FITTINGS

Complete Show Case Lighting Outfits

Scoopettes are furnished in complete outfits for any size or type of show case. Each outfit is complete and includes all finished material for wiring the case, i. e., special insulating joint, special switch box, all tubing, elbows, T-fittings, Scoopettes, straps or brackets for supporting tubing, cap for end of tubing, and sufficient No. 18 special flexible stranded wire to wire the entire case.

Complete outfits for square end show cases are quickly available. Equipment for curved or special cases readily secured.

Prices do not include assembling, wiring, installing or lamps.

Wiring and Assembling

We will ship outfits wired and assembled at an addition of 20% to the cost of the complete outfit. This includes wiring and assembling all Scoopettes and parts excepting the tubing or conduit from the elbow to the switch box. This is easily done when the outfit is installed in the case.

Round End or Curved Show Cases

We are especially prepared to accurately bend tubing to fit round end or curved cases and make a slight extra charge where the case is of a special shape or has one or two curved ends.

Number of Scoopettes Per Case

The number of Scoopettes to light a case depends on the nature of the goods displayed and the location of the case in the store. To really be effective the show case lighting should be brighter than the general illumination in the store. No set rule can be established for the number of Scoopettes required for any case, but the table below shows from experience the limits within which a satisfactory installation can be made with 15-watt lamps. By using 25-watt lamps the lighting in the case will be even brighter.

EXAMPLE: An 8-foot case will be brightly lighted with a five-light outfit when 15-watt lamps are used. The case will also be brightly lighted if only a four-light outfit with 25-watt lamps is used.

LENGTH CASE IN FEET	2 units	3 units	4 units	5 units	6 units	7 units	8 units	9 units	10 units
3 to 5 feet	A	B	VB						
5 to 7 "	X	A	B	VB					
7 to 9 "		X	A	B	VB	S			
9 to 11 "			X	A	B	VB	S	S	S
11 to 13 "				X	A	B	VB	S	S
13 to 15 "					X	A	B	VB	S

A—Average. B—Bright. VB—Very Bright. S—Special—Brilliant. X—Below Average.

Ask For Suggestions

When in doubt how many lights should be used in a case write our Engineering Department for suggestions.

The following information is required to determine the number of Scoopettes to use in any regular square end case:

1. Are cases of "Wood Frame" or "All Plate Glass" (no frame at front).
2. Inside length from glass to glass.
3. Depth from inside of front glass to outside of back corner post.
4. Height from under side of top glass to under side of floor of case.

If cases are curved or are not of the regular square end type send sketch and give dimensions.

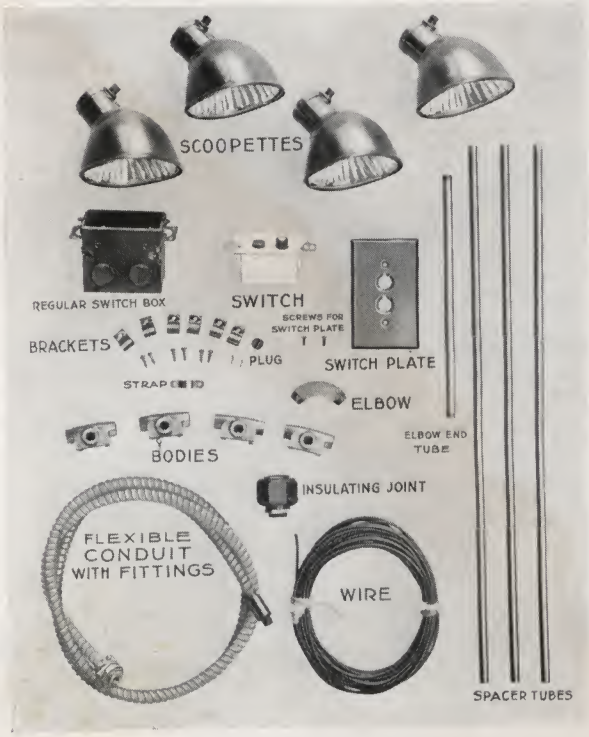
These dimensions required for recommendation will enable us to ship material that will exactly fit each case.

Scoopette Package Outfits

One Complete Show Case Lighting Outfit in each Package

Because the majority of all display cases are either six or eight feet long whether of wood frame or all glass construction, Scoopettes are furnished in complete package outfits for these standard types and sizes of show cases. Each outfit is complete with all parts, such as tubing, fittings, switch and wire, with instructions for wiring, assembling and installing.

Three light outfits are furnished for a six-foot case, and four-light outfits for an eight-foot case.



Catalog Numbers

(Specify as 3 W 6, etc.)

Number of Scoopettes	Type of Case W-Wood Frame G-All Glass	Length of Case Feet
3	W	6
3	G	6
4	W	8
4	G	8

Package Size, 36 x 5 x 6 inches

Package weight, 3-light outfit, 8½ pounds

Package weight, 4-light outfit, 9½ pounds

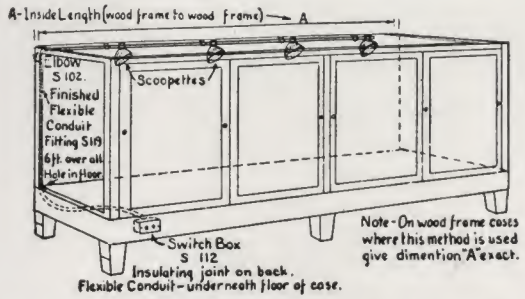
Layout at left shows material included in Four-Light Scoopette outfit for "Wood Frame" case 8 feet long.

Catalogue No. 4 W 8.

Method of Installing "Scoopettes"

Wood Frame Cases

In "wood frame" cases where the plate glass top, front and sides are supported by a wood frame, the feed wires enter from underneath the floor of the case through a flexible conduit as shown in the diagram below.

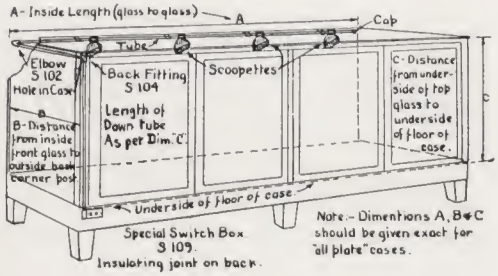


This flexible conduit extending from the switch at the back of the case to one of the front corners is concealed from view by one of the front corner posts. The connection between the front length of equipment and the flexible conduit is made with an elbow.

All-Plate Cases

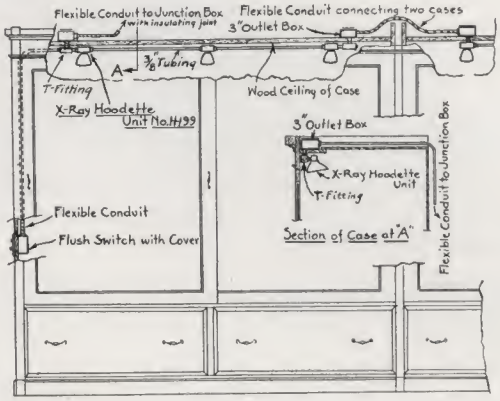
In "all glass" cases the plate glass top, front and sides are either cemented together or held by small metal brackets. Feed wires are brought up through tubing on the back of one of the back posts, and extend across the inside of the case at one end. This cross tube is connected to the front length of equipment with an elbow.

This method of installing can also be used for wood frame cases. If package outfits are ordered use the same equipment as for an all glass case, i. e., 3 G 6 or 4 G 8.



Method of Installing "Hoodettes"

The same fittings used for installing Scoopettes are furnished on complete Hoodette outfits.



Wall cases are always of wood frame construction but feed wires generally enter from an outlet on or near the top of the case as shown in the diagram.

A very satisfactory method is to bring the feed wires in flexible conduit from the outlet box connecting to the length of Hoodette equipment through a "T" fitting and controlling the lights from a switch installed near the base of the case.

When feed wires are brought up from underneath the floor of the case flexible conduit should be concealed behind one of the front corner posts or behind the case.

The HOODETTE
No. H-199

Package 10

Complete Installations Furnished

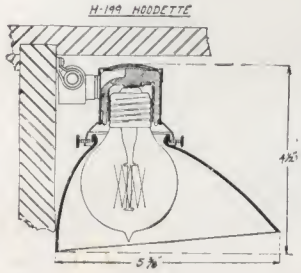
(See opposite page)

For 15- and 25-Watt G-18½ Medium Screw Base Mazda "B" Lamp

The Hoodette has been especially designed for lighting low, shallow windows, outside display cases, wall cases, etc. The light is so controlled that while sufficient light is directed toward the back of the case, the greater part is directed downward and brilliantly illuminates the lower part without loss of light outside the case. Hoodette No. H-199 includes reflector, socket with cover, and reflector holder attached to socket shell. Number of Hoodettes per case can be determined on same basis as Scoopettes. See page 22.

Height, including socket, 4⅛ inches
Depth, front to back, 5⅜ inches
Finish, black

Weight, 11 ounces
Standard package, 10
Package weight, 14 pounds



Correct Method of Installing Hoodettes

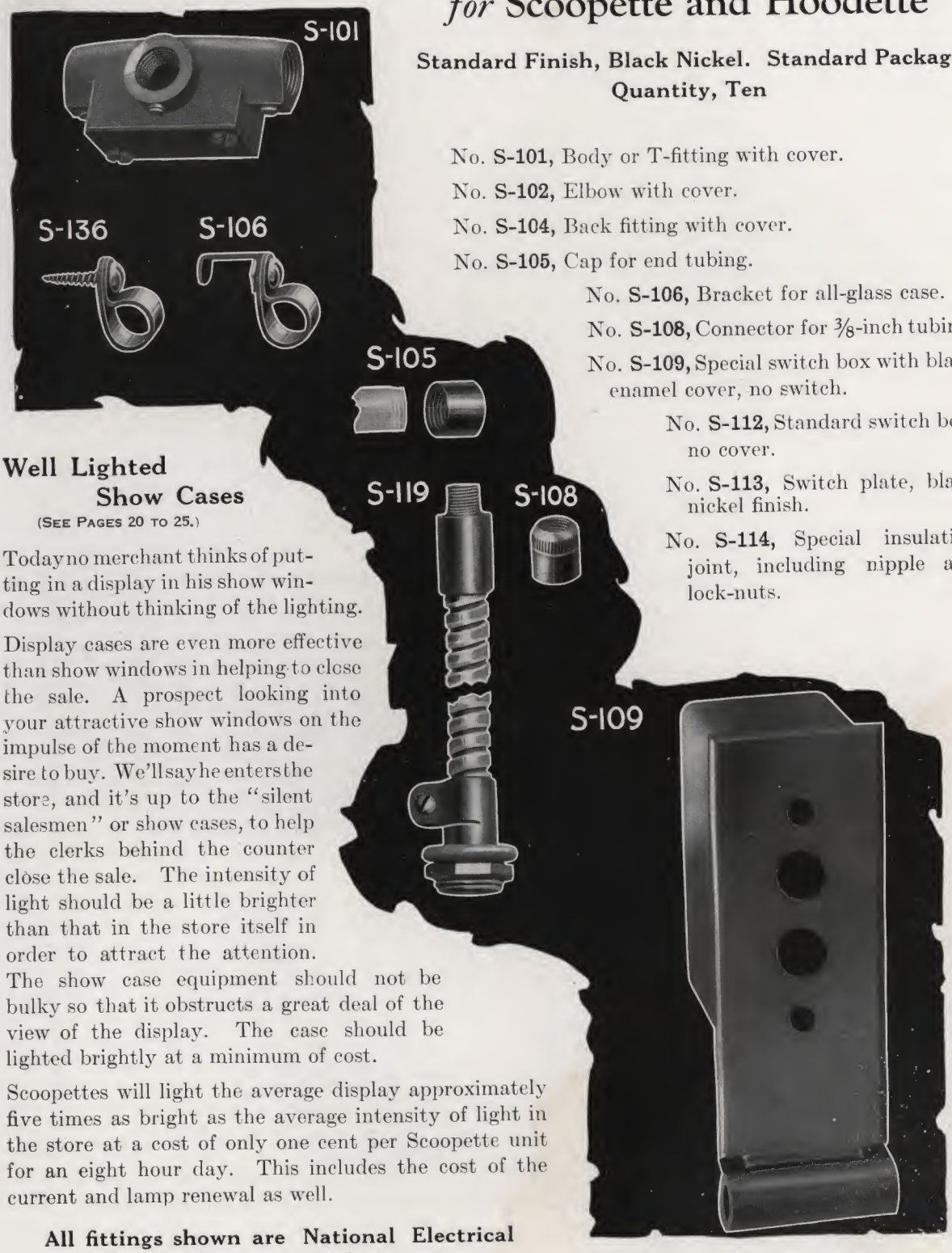
The wires are brought up back of the case and enter an outlet box at the top. The switch for controlling the lamps is concealed at one end. Spacings same as given on opposite page for the SCOOPETTE.

FITTINGS SHOWN ON PAGES 26 AND 27 CAN BE USED FOR INSTALLING ═HOODETTE═

X-Ray Fittings

for Scoopette and Hoodette

Standard Finish, Black Nickel. Standard Package Quantity, Ten



No. **S-101,** Body or T-fitting with cover.

No. **S-102,** Elbow with cover.

No. **S-104,** Back fitting with cover.

No. **S-105,** Cap for end tubing.

No. **S-106,** Bracket for all-glass case.

No. **S-108,** Connector for 3/8-inch tubing.

No. **S-109,** Special switch box with black enamel cover, no switch.

No. **S-112,** Standard switch box, no cover.

No. **S-113,** Switch plate, black nickel finish.

No. **S-114,** Special insulating joint, including nipple and lock-nuts.

Well Lighted Show Cases

(SEE PAGES 20 TO 25.)

Today no merchant thinks of putting in a display in his show windows without thinking of the lighting.

Display cases are even more effective than show windows in helping to close the sale. A prospect looking into your attractive show windows on the impulse of the moment has a desire to buy. We'll say he enters the store, and it's up to the "silent salesmen" or show cases, to help the clerks behind the counter close the sale. The intensity of light should be a little brighter than that in the store itself in order to attract the attention. The show case equipment should not be bulky so that it obstructs a great deal of the view of the display. The case should be lighted brightly at a minimum of cost.

Scoopettes will light the average display approximately five times as bright as the average intensity of light in the store at a cost of only one cent per Scoopette unit for an eight hour day. This includes the cost of the current and lamp renewal as well.

All fittings shown are National Electrical Code standard.

X-Ray Fittings

for Scoopette and Hoodette

Standard Finish, Black Nickel. Standard Package Quantity, Ten

No. **S-115,** Switch for S-109 or S-112.

No. **S-119,** Special flexible conduit, with fittings, 72 inches long, 36 inches showing in case finished black nickel.

No. **S-120,** Fitting for attaching flexible conduit to S-102 elbow.

No. **S-121,** Fitting for flexible conduit.

No. **S-126,** Strap for ⅜-inch tubing.

No. **S-127,** Strap for $^{7}/_{16}$-inch flexible conduit.

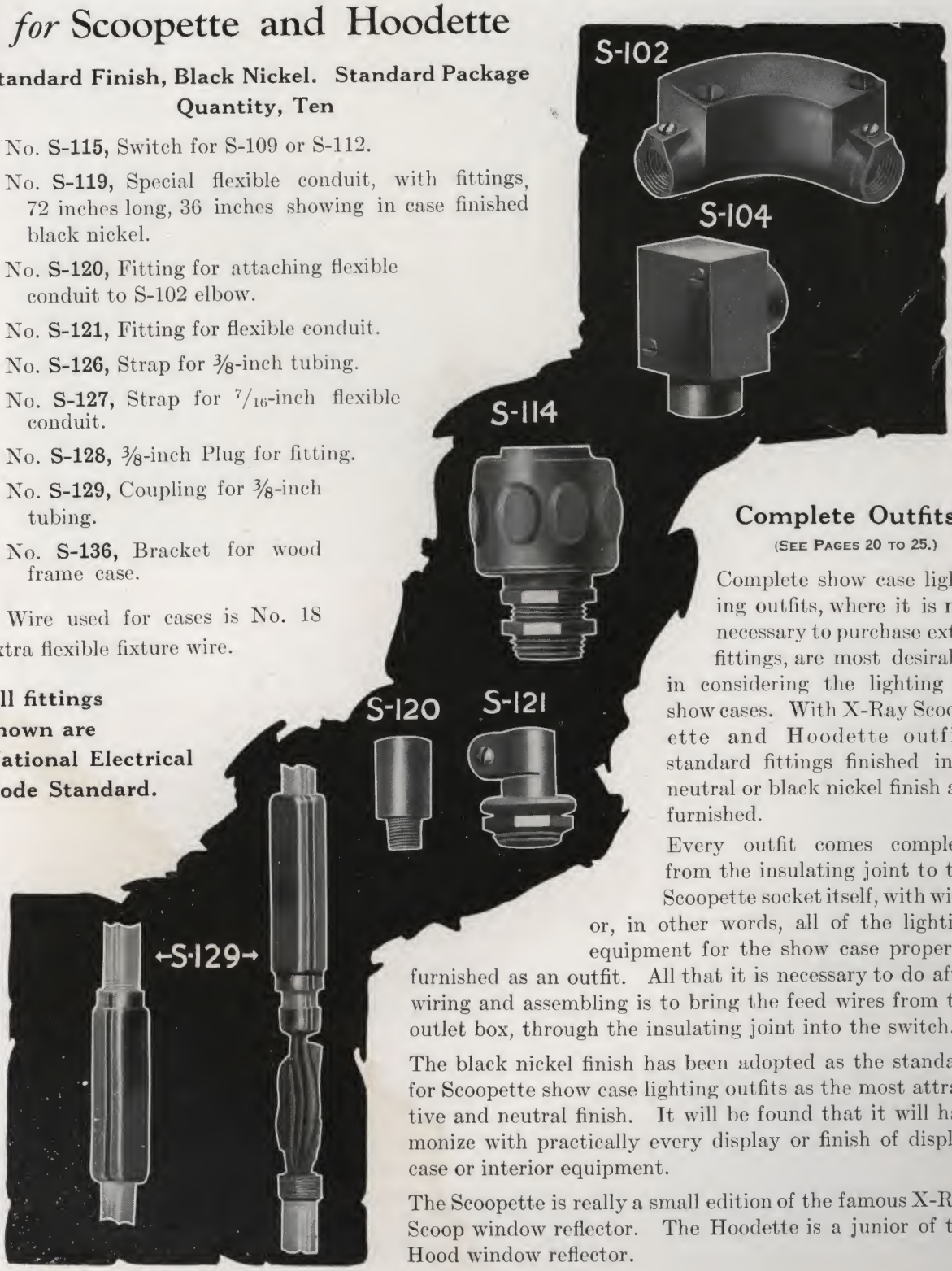
No. **S-128,** ⅜-inch Plug for fitting.

No. **S-129,** Coupling for ⅜-inch tubing.

No. **S-136,** Bracket for wood frame case.

Wire used for cases is No. 18 extra flexible fixture wire.

All fittings shown are National Electrical Code Standard.



Complete Outfits

(SEE PAGES 20 TO 25.)

Complete show case lighting outfits, where it is not necessary to purchase extra fittings, are most desirable in considering the lighting of show cases. With X-Ray Scoopette and Hoodette outfits standard fittings finished in a neutral or black nickel finish are furnished.

Every outfit comes complete from the insulating joint to the Scoopette socket itself, with wire; or, in other words, all of the lighting equipment for the show case proper is furnished as an outfit. All that it is necessary to do after wiring and assembling is to bring the feed wires from the outlet box, through the insulating joint into the switch.

The black nickel finish has been adopted as the standard for Scoopette show case lighting outfits as the most attractive and neutral finish. It will be found that it will harmonize with practically every display or finish of display case or interior equipment.

The Scoopette is really a small edition of the famous X-Ray Scoop window reflector. The Hoodette is a junior of the Hood window reflector.

Industrial Lighting

THE methods for factory lighting have been practically revolutionized in the last few years. The old drop cord system with individual lights for each bench has been discarded for newer methods which illuminate the entire room evenly. The so-called overhead method of lighting is coming into extensive use. With this method the units are placed high above the heads of the workmen, at or near the ceiling, with the lamps out of ordinary range of vision. This method of lighting permits a clear, unobstructed and glareless view from one end of the shop to the other. It does away with dark corners and harsh shadows, which often contribute to accidents. It gives the room an open, airy and clean cut appearance—a more cheerful place to work.

The use of moderate sized units arranged to provide a uniform intensity over the entire surface is desired and preferable to a smaller number of high candle power units placed at greater distances apart. The failure of any one unit to function will not seriously interfere with the work if this system of installation is used.

How to Select Industrial Reflectors

Only three items are necessary to determine what X-Ray Reflector to use for industrial lighting, and how many for any interior.

1. Intensity or amount of light required
2. Size of room or bays to be lighted
3. Ceiling height or mounting height for reflector equipment.

The amount of light required may be determined from experience or by referring to the table below.

The entire room to be lighted will always be divided into bays (smaller areas in large room) that are generally determined by the construction of the building, such as the dividing beams or columns.

The height at which reflectors should be mounted to uniformly light these areas is indicated from the perpendicular on this chart.

Example

What and how many reflectors are required to light an assembling plant 97 feet long, 21 feet wide, ceiling height 13 feet?

From the table we find that an intensity of 6 foot candles is required for general factory lighting. On the chart we find that reflectors must be mounted 10 feet above working plane to secure a spread of 21 feet. Following this line across to the junction with the line representing an intensity of 6 foot candles, indicates that No. 580 X-Ray Reflector with 300 watt lamp will provide this intensity. The entire area 97 feet long will be divided into five bays each requiring one reflector.

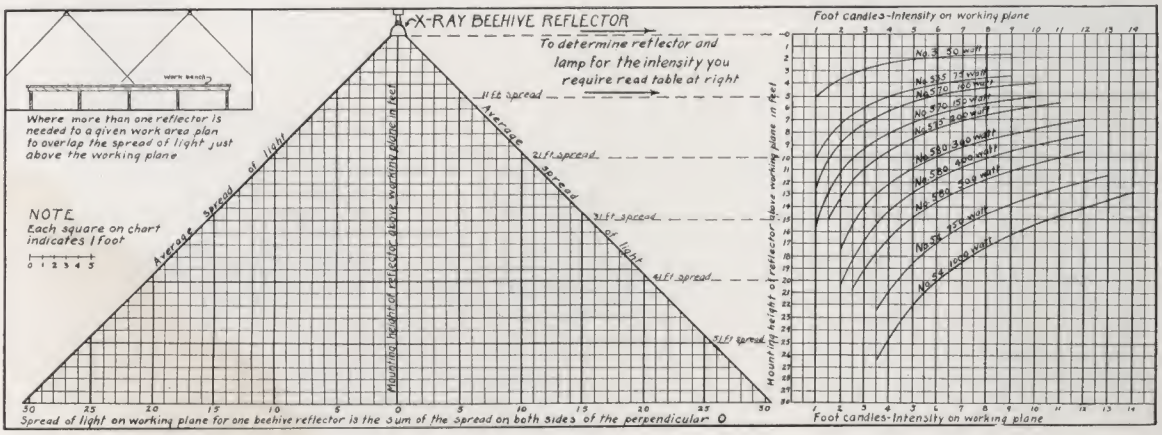


Table of Intensities in Foot Candles, of Illumination Required for Various Interiors

Interior	Foot Candles
Armories	3.0
Bowling Alleys	2.0
Pins	10.0
Box Factories	4.0
Canneries	4.0
Engraving	10.0
Factory—General Illumination (Using Local Lighting)	2.5
General (no Local Lighting)	6.0
Local Lighting (bench work)	6.0
Foundries	4.0
Freight Houses	2.0
Garages	2.0
Machine Shops:	
Die Making, Fine Bench Work	10.0
Inspecting and Lathe Work	8.0
Mills:	
Textile and Knitting	5.0
Power Houses	3.0
Printing Plants	5.0
Linotype, Monotype	10.0
Composing Room	8.0
Sewing Rooms, Light Goods	5.0
Dark Goods	10.0
Spinning and Weaving	7.0
Warehouse Space	2.0
Wood Working:	
Cabinet Work	5.0
Rough Mill Work	3.0

The MILL

No. 3

Package 40

Use X-Ray Fittings on X-Ray Jobs

For 50-Watt Mill Type (P-19 Bulb) Mazda "B" Lamps

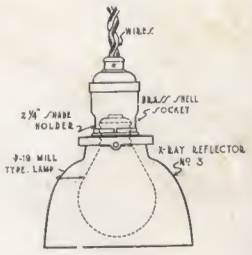
The No. 3 Mill reflector is the smallest of the Beehive line and is primarily adapted for localized lighting, such as on drop cords for local and bench lighting. Also a very efficient little reflector over work tables and counters in shops and for general illumination where ceilings are low.

Diameter 4½ inches
Height 3¼ inches
Holder 2¼ inches, Form "O"

Code Word—MILL
Weight of single reflector 5 ounces
Package weight 19½ pounds

Diagrams showing distribution of light from the No. 3 Reflector with 50-watt lamp and one of the many possible methods of installing this reflector. *(See pages 18 and 19 for fittings.)*

Request a Lighting Report from our Engineers



The BEEHIVE
No. 535

Package 24

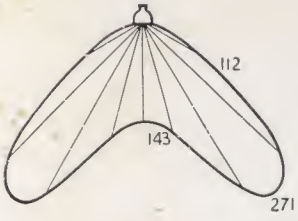
Use X-Ray Fittings on X-Ray Jobs

For 75-Watt Mazda "C" Lamps

The No. 535 reflector is adapted for localized or bench lighting where a higher intensity of light is needed than is produced with the No. 3 Mill reflector. Used for general illumination where ceilings are low, as for instance, bowling Alleys, Basements, Store rooms and Corridors.

Diameter 5¾ inches
Height 5⅛ inches
Holder 2¼ inches Form "H"

Code Word—**HICKORY**
Weight of single reflector ¾ pound
Package weight 25 pounds



Diagrams showing distribution of light from the No. 535 Reflector with 75-watt lamp and one of the many possible methods of installing this reflector. *(See pages 18 and 19 for fittings.)*

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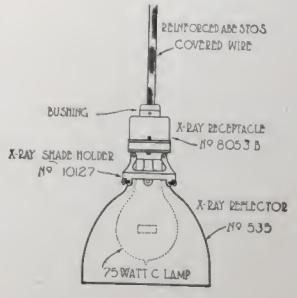


The BEEHIVE

No. 570

Package 16

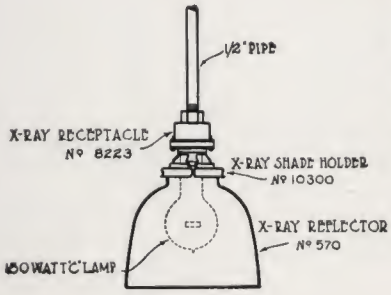
Use X-Ray Fittings on X-Ray Jobs

For 150-Watt Mazda "C" Lamps

The No. 570 Reflector gives a broad distribution of light similar to the 535. It effectively conceals the lamp and thus prevents glare in the worker's eyes. Scientifically constructed to give an even distribution of light without streaky effects.

Diameter 7⅞ inches
Height 6⅞ inches
Holder 3¼ inches, Form "A"

Code Word—**ASH**
Package weight 32 pounds
Weight of single reflector 1¼ pounds



Diagrams showing distribution of light from the Beehive No. 570 Reflector with 150-watt lamp, and one of the many possible methods of installing this reflector. (*See pages 18 and 19 for fittings.*)

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The BEEHIVE
No. 575

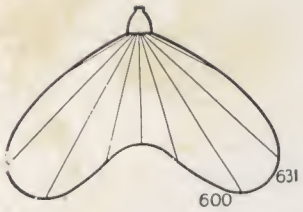
Package 8

Use X-Ray Fittings on X-Ray Jobs

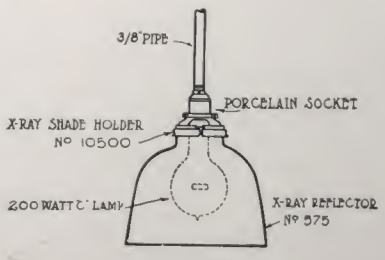
For 200-Watt Mazda "C" Lamps

The No. 575 is a reflector of the same type as the 570 but larger. At the average hanging height it will effectively illuminate a 20x20-foot space. It is desirable where fewer lighting units are necessary on account of architectural features, as in factories, garages and gymnasiums.

Diameter 9⅜ inches — *Code Word*—**OAK**
Height 8 inches — **Package weight 25 pounds**
Holder 3¼ inches, Form "A" — **Weight of single reflector 1¾ pounds**



Diagrams showing distribution of light from the Beehive No. 575 Reflector with 200-watt lamp and one of the many methods of installing this reflector. (*See pages 18 and 19 for fittings.*)



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The BEEHIVE
No. 580

Package 4

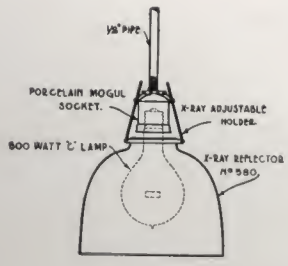
Use X-Ray Fittings on X-Ray Jobs

For 300- and 500-Watt Mazda "C" Lamps

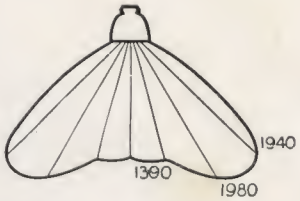
The No. 580 Reflector is of the deep bowl type as are the other Beehives. The adjustable holder which is supplied with the reflector can be made to fit any Mogul socket or pipe suspension. It is an ideal unit for lighting large areas economically.

Diameter 11⅞ inches
Height, reflector only, 9⅜ inches
Holder, special, supplied with reflector

Code Word—**SPRUCE**
Package weight 23 pounds
Weight of single reflector and holder 4½ pounds



Diagrams showing distribution of light from the No. 580 Beehive Reflector with 500-watt lamp, and one of the many possible methods of installing this reflector. *(See pages 18 and 19 for fittings.)*



Request a Lighting Report from our Engineers

The JUMBO
No. 54

Package 1

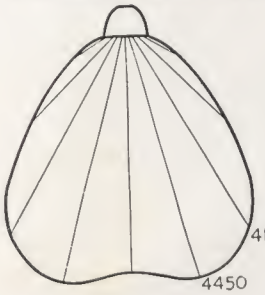
Use X-Ray Fittings on X-Ray Jobs

For 750- and 1000-Watt Mazda Lamps

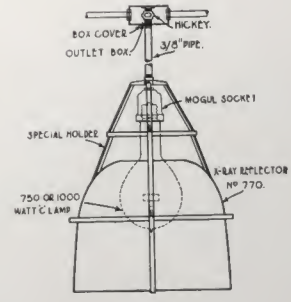
No. 54 Units are complete with No. 770 Reflector, special holder and Mogul socket as shown in illustration. It is designed for the illumination of very large interiors.

Diameter of reflector 16½ inches
Height of reflector 13⅜ inches
Package weight 48 pounds

Weight of single reflector 10 pounds
Holder special



Diagrams showing distribution of light from the No. 54 Jumbo with 1000-watt lamp, and one of the many possible methods of installing this reflector. *(See pages 18 and 19 for fittings.)*



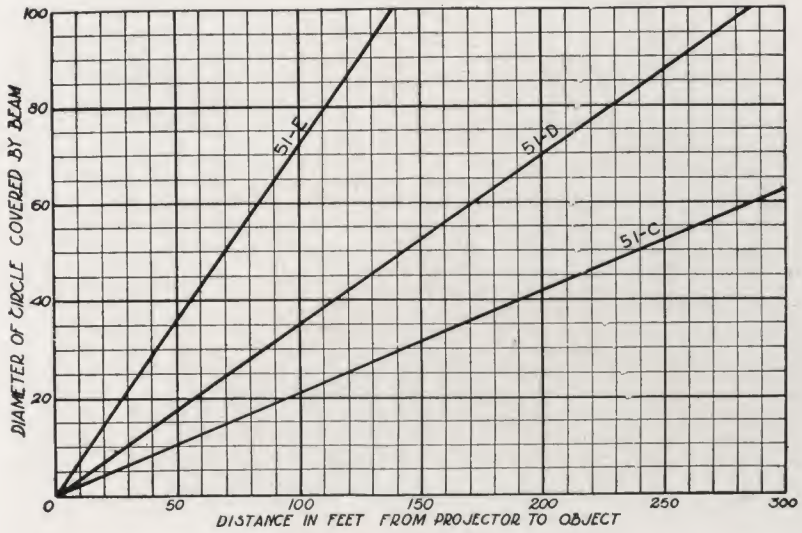
Request a Lighting Report from our Engineers

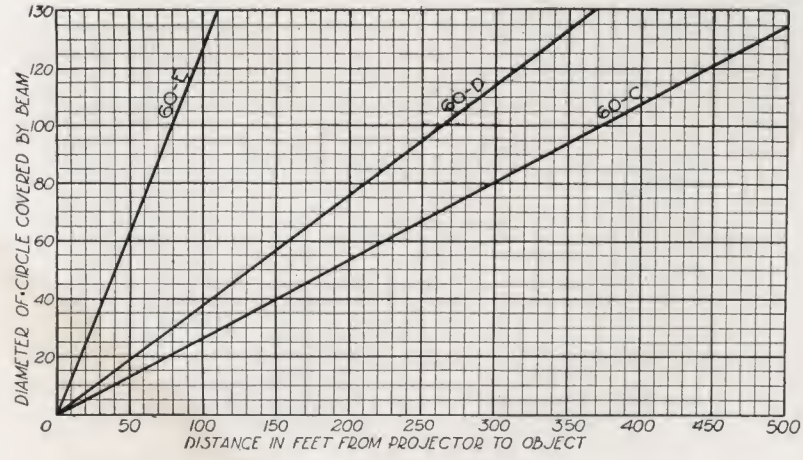
Flood Lighting

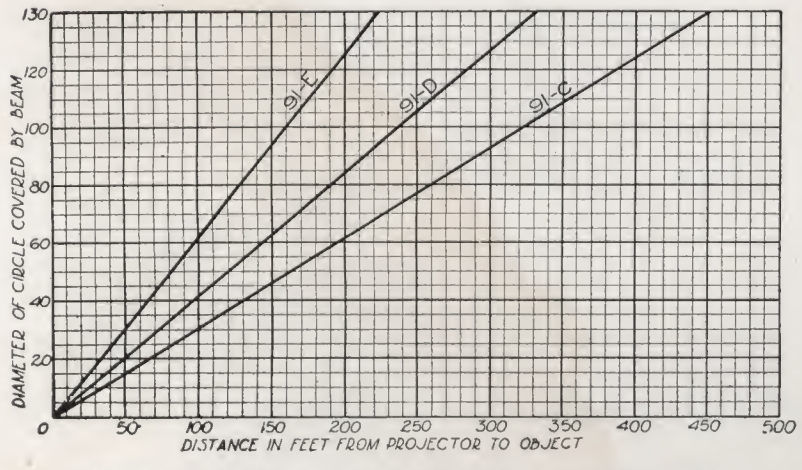
DOUBTLESS the finest instance of flood lighting on a large scale was the illumination of the Panama Pacific Exposition, but the flood lighting of the Wrigley Building and the mammoth Woolworth tower by means of X-Ray projector reflectors are equally important achievements, since they demonstrate to the world more vividly the grand effect obtainable when an imposing architectural edifice is brought into striking relief against the background of the dark sky.

With flood lighting, the light is thrown upon the illuminated object from a distance. This requires the use of a projector employing mirrored reflectors of special design. The flood lighting projector is not designed to throw a concentrated beam such as is obtained with a searchlight or locomotive headlight, but rather to spread the light evenly over a comparatively larger area.

How to Specify X-Ray Projectors







When ordering specify Projector required, as No. 51-E, or 91-D, etc.

THE accompanying chart shows graphically the surface that an X-Ray Projector will illuminate when placed at various distances from an object.

For instance, if the 51 D Projector is placed 200 feet from a surface, the area lighted by the beam of light will be 70 feet in diameter. This only applies when the projector is placed so that the beam of light is perpendicular to the surface lighted. If the projector is tilted at an angle the surface covered will be of an elliptical form.

Therefore, the number of projectors needed to light a building, sign, monument, etc., can be determined by computing the area and dividing by the number of square feet that one projector will cover.

The selection of the proper projector depends upon the surrounding conditions, the intensity of light desired, and the distance from the surface lighted to the source of light.

As the distance between the projector and the surface to be illuminated increases, the intensity of the light decreases. It is only necessary, therefore, to either increase the size of the projector, or the number of units employed, to increase the intensity of the light on the objective to any desired brightness.

A general statement cannot be made as to the type and size of the unit to be employed for various requirements. In general, however, the Type 51 Projector using the 250-watt floodlighting lamp gives sufficient intensity when the projected beam is to be thrown not more than 200 feet. Beyond this distance, or if a higher intensity is required, the No. 60 or No. 92 Projector using more powerful lamps should generally be used.

X-Ray Projector
No. 51

Package 1

Use X-Ray Fittings on X-Ray Jobs

For Use with the 250-Watt G-30 Mazda "C" Flood Lighting Lamp

(NOTE.—The lamp companies do not recommend this lamp for burning within an angle of 45 degrees tip down. For such service equip the No. 51 Projector with No. 10265 sleeve [see page 36], and use standard PS bulb 200-watt Mazda "C" lamp.)

The No. 51 X-Ray Projector is particularly adapted for spectacular flood lighting, as its small size permits easy concealment on a building.

It has been widely and successfully used for protection lighting and for facilitating night operations in large spaces, both inside and outside.

The unit is weatherproof—perfectly ventilated—and not affected by heat, cold, rain, snow or ice.

Dimensions

Diameter 11½ inches — **Height 13½ inches**
Depth over all 9¾ inches — **Weight 10 pounds**
Standard finish gray. — **Package weight 15 pounds**
Size of base: 2 in. x 4 in. with two ½ in. holes 2⅝ in. on centers.

No. 51—"C," "D" or "E" Projector, with either No. 800 or No. 810 Reflector, is regularly supplied as shown, with swivel and tilting base, for bolting to supporting surface, without lamp.

Installation and Maintenance

It may be used with Wall Bracket No. 10270, Low Portable Base No. 10271, or Portable Stand No. 10275, at slight extra cost. Stud No. 10274, threaded for standard ¾-inch pipe, is also available for use. (See pages 36 and 37.)

No. 50—"C," "D" or "E," with either No. 800 or No. 810 Reflector, is constructed for attaching to ½-inch conduit (direction of beam is controlled by bending conduit in proper direction), without lamp.

For Projector Fittings and Parts See Pages 44 and 45

X-Ray Reflectors For Projector No. 51

No. 800 X-Ray Reflector

No. 810 X-Ray Reflector

Use X-Ray Fittings on X-Ray Jobs

X-Ray Reflector Equipment

51-C **51-D** The No. 800 X-Ray Reflector, *which is regularly supplied and shipped with the No. 51 Projector,* also when specified as No. 51-"C" or No. 51-"D," produces a beam of light which may be varied from 12 to 20 degrees in spread. With lamp at focus a 12 degree beam is produced—(Type "C"). Moving the lamp ¼-inch in front of focus produces a 20 degree beam—(Type "D").

51-E The No. 810 X-Ray Reflector, *supplied with the No. 51 Projector, when specified* as No. 51-"E," produces a 40 degree beam with lamp at focus.

For a diffused beam, the No. 51-C or D with frosted cover glass No. 10282 can be supplied at a slight extra cost.

For Projector Fittings and Parts See Pages 44 and 45

X-Ray Projectors

Nos. 60 and 62

Package 1

Use X-Ray Fittings on X-Ray Jobs

For Use with the 500-Watt G-40 Mazda "C" Flood Lighting Lamp

(NOTE.—The lamp companies do not recommend this lamp for burning within an angle of 45 degrees tip down.)

The No. 60 X-Ray Projector is of medium size. It may be adapted to a wide variety of uses, as the three reflectors designed for the 500-watt lamp produce a maximum flexibility. The unit is properly ventilated and not affected by unusual conditions and changes in the weather.

Constructed throughout of heavy gauge galvanized steel, with battleship gray enamel finish.

Dimensions

Diameter 14 inches
Depth, front to back, 14 inches
Height over all 19½ inches
Diameter of base 5 inches

Standard package 1
Standard finish gray
Weight 23 lbs.
Package weight 35 lbs.

Installation and Maintenance

No. 60 "C," "D" or "E" Projector, with either No. 835, 840 or 845 Reflector, is regularly supplied as shown, with swivel and tilting base, for bolting to supporting surface without lamp. It may be used with Wall Bracket No. 10270, Low Portable Base 10271, or Portable Stand No. 10275 at slight extra cost. Stud No. 10274, which is threaded for standard ¾-inch pipe, is also available for use where special pipe support is to be constructed. (See pages 36 and 37.) A hinged door makes lamp renewals and cleaning easy. The cover is of wire-glass. The lamp may be readily focused from the outside.

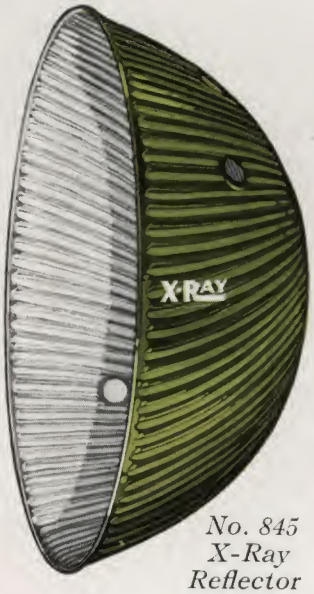
No. 62 "C," "D" or "E" Projector.—As above with adjustable stand support, equipped with Nos. 835, 840 or 845 Reflector, without lamp.

No. 62
X-Ray Projector

For Projector Fittings and Parts See Pages 44 and 45

X-Ray Reflectors *for* Nos. 60 and 62 Projectors

No. 840 X-Ray Reflector



No. 845 X-Ray Reflector

No. 835 X-Ray Reflector

Use X-Ray Fittings on X-Ray Jobs

X-Ray Reflector Equipment

60-D The No. 835 X-Ray Reflector, *which is regularly supplied and shipped* with the No. 60 Projector, and when specified as No. 60-D, produces a beam of 25 degrees divergence with lamp at focus.

60-C The No. 840 X-Ray Reflector, supplied with the No. 60 Projector *when specified as No. 60-C,* produces a 10 degree beam with lamp at focus.

60-E The No. 845 X-Ray Reflector, supplied *when specified as No. 60-E,* produces a wide beam of 50 degrees.

For a diffused beam the No. 835 or 840 Reflector with special type of diffusing front glass cover No. 10279 is available at slight extra charge. (See pages 36 and 37.)

Where it becomes desirable to cut down the direct glare, a sand-blasted cover glass No. 10278 may be supplied, over any of the three above reflectors, at slight extra charge. (See pages 36 and 37.)

For effecting a widely spread band of light a special ribbed prism glass cover No. 10280 may be used, at an extra charge. This cover can be turned in the door to direct the band of light vertically, horizontally or at any angle. Either the No. 835 or No. 845 reflectors must be used to produce this result. (See pages 36 and 37.)

For Projector Fittings and Parts See Pages 44 and 45

X-Ray "Mogul" Nos. 91 and 92

Package 1

Use X-Ray Fittings on X-Ray Jobs

For Use with the 300- to 1,000-Watt Standard, PS Bulb, Mazda "C" Lamps

X-Ray "Mogul" Projectors are substantially made of galvanized steel and castings, and are weatherproof, well ventilated, and light in weight. Finished in battleship gray enamel.

Dimensions No. 91

Diameter of barrel, 14 inches
Depth over all, 13 inches
Spread of base, 5 inches
Height, over all, 24 inches
Standard finish, gray
Weight 28 lbs.; packed, 43 lbs.

Dimensions No. 92

Diameter of barrel, 14 inches
Depth over all, 13 inches
Spread of base, 18 inches
Height, not inc. stand, 18¼ inches
Standard finish, gray
Weight, 40 lbs.; packed 59 lbs.

Installation and Maintenance

Mogul No. 91 "C," "D" or "E" is regularly supplied with swivel and tilting base for bolting to supporting surface. It may be used with Wall Bracket No. 10270, Low Portable Base No. 10271 or Portable Stand No. 10275, at slight extra cost. Stud No. 10274 which is threaded for standard ¾-inch pipe, is also available for use when special pipe support is to be constructed. (See pages 36 and 37.)

Mogul No. 92 "C," "D" or "E" is regularly supplied with yoke and stand support, arranged for bolting to supporting surface. The yoke will slip on standard ¾-inch pipe, where special pipe support is to be constructed.

Both No. 91 and No. 92 may be equipped with either the No. 825 or No. 827 Reflector, at the same price. No. 825 Reflector always supplied unless otherwise specified.

For Projector Fittings and Parts See Pages 44 and 45

No. 92
X-Ray Projector

X-Ray Reflectors *for* Nos. 91 and 92 Projectors

No. 825 X-Ray Reflector

No. 827 X-Ray Reflector

Use X-Ray Fittings on X-Ray Jobs

X-Ray Reflector Equipment

91-C The No. 825 X-Ray Reflector, *which is regularly supplied and shipped* with the Mogul Nos. 91 and 92 Projectors, and when specified as No. 91-"C" or No. 92-"C," produces a beam of 10 degrees divergence with lamp at focus.

91-D The No. 827 X-Ray Reflector, supplied with Mogul projectors *when specified as No. 91-D or 92-D,* produces a 15 degree beam with lamp at focus.

91-E For an extended beam, specified as No. 91-E or 92-E, the No. 825 or No. 827 Reflector with cover No. 10279 must be used. An extra charge is made for this cover.

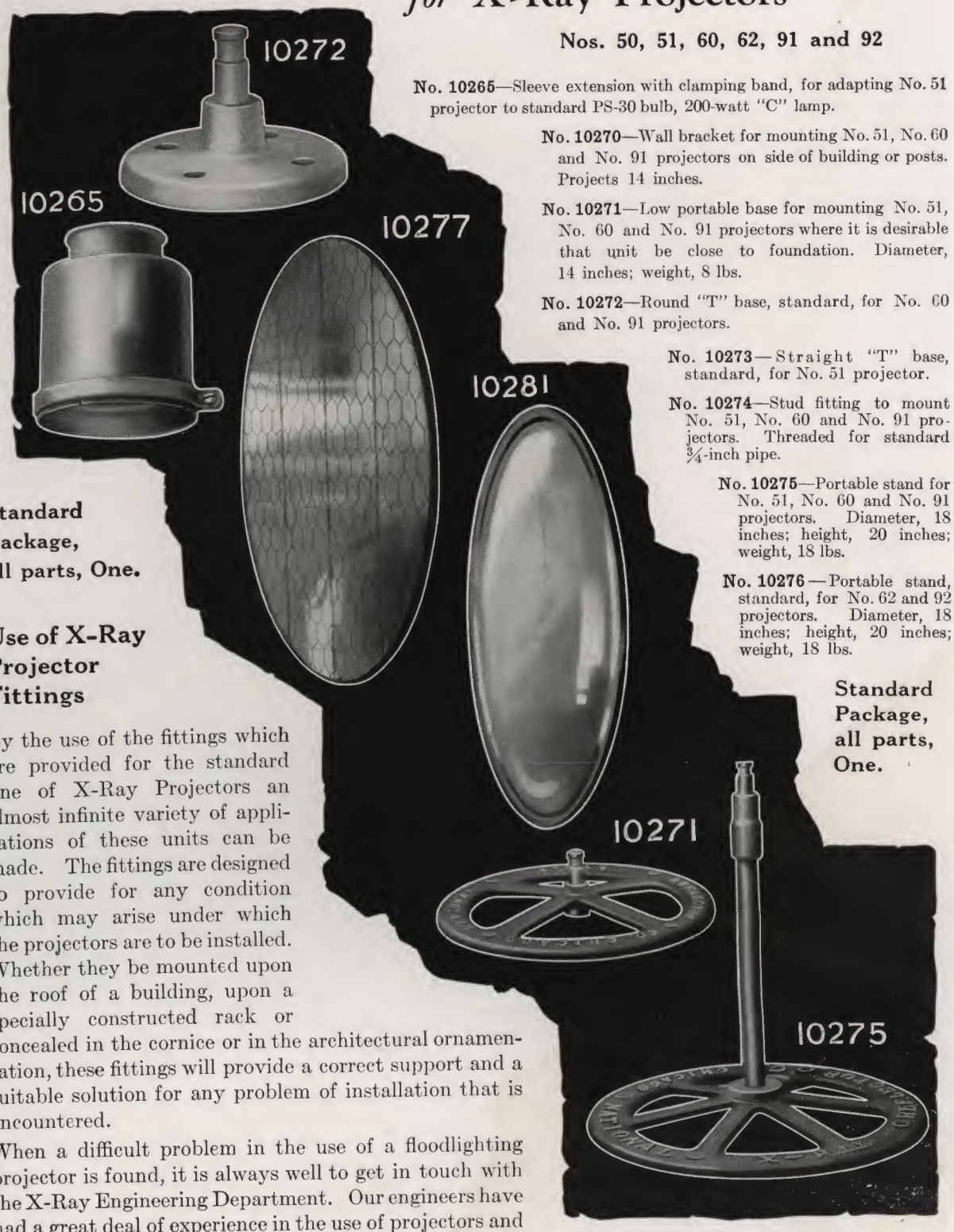
Where it is desirable to cut down the direct glare a sand-blasted cover glass No. 10278 may be supplied, at extra charge, for either of the above reflectors.

For effecting a widely spread band of light a special ribbed prism glass cover No. 10280 may be used at extra charge. This cover can be turned in the door to direct the band of light vertically, horizontally or at any angle.

X-Ray Fittings

for X-Ray Projectors

Nos. 50, 51, 60, 62, 91 and 92



No. 10265—Sleeve extension with clamping band, for adapting No. 51 projector to standard PS-30 bulb, 200-watt "C" lamp.

No. 10270—Wall bracket for mounting No. 51, No. 60 and No. 91 projectors on side of building or posts. Projects 14 inches.

No. 10271—Low portable base for mounting No. 51, No. 60 and No. 91 projectors where it is desirable that unit be close to foundation. Diameter, 14 inches; weight, 8 lbs.

No. 10272—Round "T" base, standard, for No. 60 and No. 91 projectors.

No. 10273—Straight "T" base, standard, for No. 51 projector.

No. 10274—Stud fitting to mount No. 51, No. 60 and No. 91 projectors. Threaded for standard ¾-inch pipe.

No. 10275—Portable stand for No. 51, No. 60 and No. 91 projectors. Diameter, 18 inches; height, 20 inches; weight, 18 lbs.

No. 10276—Portable stand, standard, for No. 62 and 92 projectors. Diameter, 18 inches; height, 20 inches; weight, 18 lbs.

Standard Package, all parts, One.

Standard Package, all parts, One.

Use of X-Ray Projector Fittings

By the use of the fittings which are provided for the standard line of X-Ray Projectors an almost infinite variety of applications of these units can be made. The fittings are designed to provide for any condition which may arise under which the projectors are to be installed. Whether they be mounted upon the roof of a building, upon a specially constructed rack or concealed in the cornice or in the architectural ornamentation, these fittings will provide a correct support and a suitable solution for any problem of installation that is encountered.

When a difficult problem in the use of a floodlighting projector is found, it is always well to get in touch with the X-Ray Engineering Department. Our engineers have had a great deal of experience in the use of projectors and will be glad to consult with you at no expense whatever.

X-Ray Fittings

for X-Ray Projectors

Nos. 50, 51, 60, 62, 91 and 92

No. 10277—14-inch clear cover glass, standard, for Nos. 60, 62, 90, 91 and 92 projectors.

No. 10278—Sand-blasted cover glass, special, for same projectors.

No. 10279—Diffusing cover glass, special, for same projectors.

No. 10280—Ribbed prism cover glass, special, for same projectors.

No. 10281—10-inch clear cover glass, standard, for No. 51 projector.

No. 10282—Frosted cover glass, special, for No. 51 projector.

No. 10283—Separable porcelain socket for No. 51 projector.

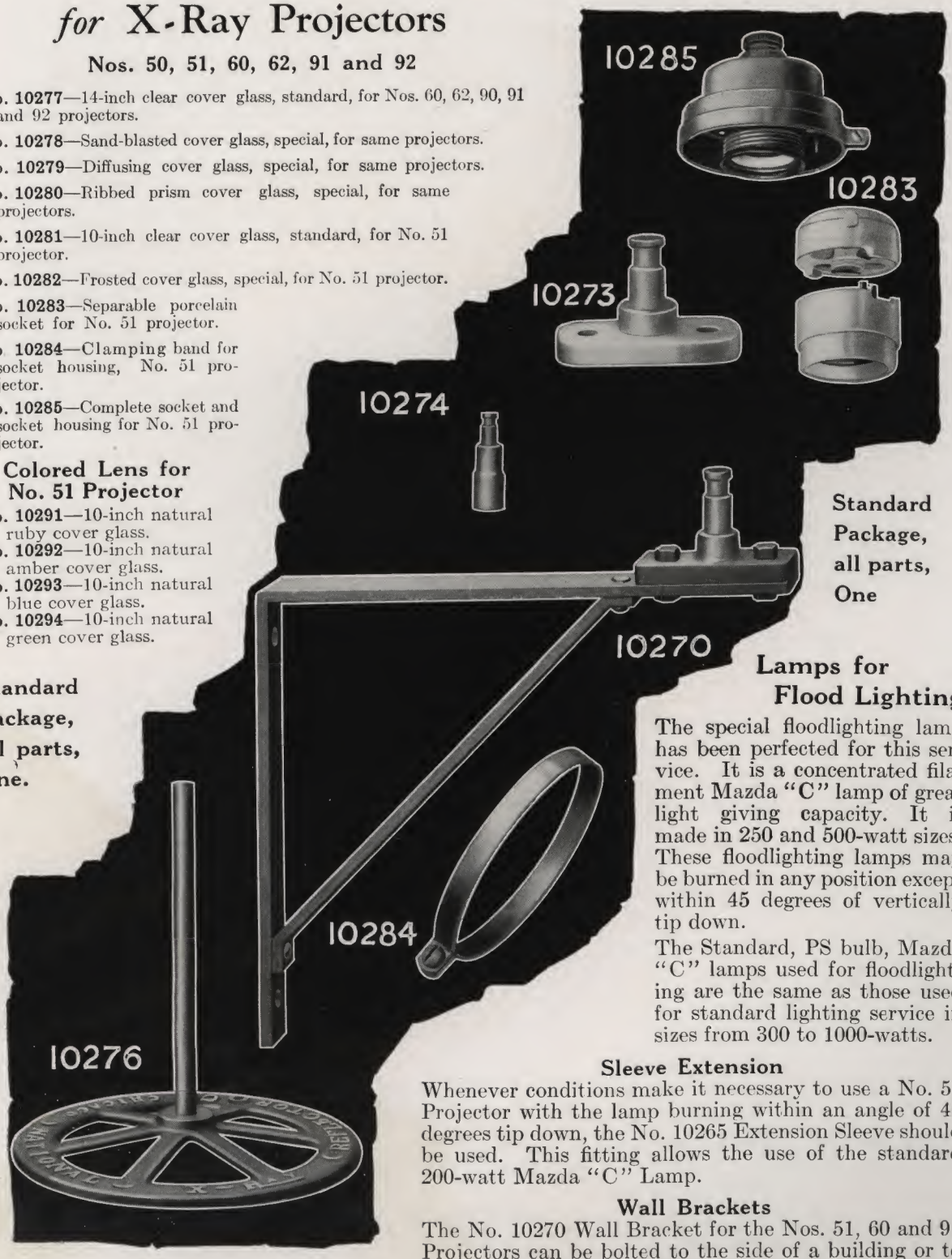
No. 10284—Clamping band for socket housing, No. 51 projector.

No. 10285—Complete socket and socket housing for No. 51 projector.

Colored Lens for No. 51 Projector

No. 10291—10-inch natural ruby cover glass.
No. 10292—10-inch natural amber cover glass.
No. 10293—10-inch natural blue cover glass.
No. 10294—10-inch natural green cover glass.

Standard Package, all parts, One.



Standard Package, all parts, One

Lamps for Flood Lighting

The special floodlighting lamp has been perfected for this service. It is a concentrated filament Mazda "C" lamp of great light giving capacity. It is made in 250 and 500-watt sizes. These floodlighting lamps may be burned in any position except within 45 degrees of vertically tip down.

The Standard, PS bulb, Mazda "C" lamps used for floodlighting are the same as those used for standard lighting service in sizes from 300 to 1000-watts.

Sleeve Extension

Whenever conditions make it necessary to use a No. 51 Projector with the lamp burning within an angle of 45 degrees tip down, the No. 10265 Extension Sleeve should be used. This fitting allows the use of the standard 200-watt Mazda "C" Lamp.

Wall Brackets

The No. 10270 Wall Bracket for the Nos. 51, 60 and 91 Projectors can be bolted to the side of a building or to posts or any other surface, and is more compact and more easily installed than a bulky wood "T" or crossarm.

Special Lighting

SPECIAL conditions calling for a small, flexible unit are often met in lighting installations. For such cases have the adaptations of the X-Ray Scoopette been designed. The unit is so small and flexible that it can be installed under conditions where it is impossible to obtain effective light from other means.

These adaptations are often of service where it is hard to adjust a light at an angle to prevent the reflected glare from white paper from being thrown directly into the workers' eyes. This fact accounts for its increasing use in bank cages.

One of the standard adaptations of this effective unit is the No. 3698X Brackette, designed for the lighting of bank cages. Its installation is illustrated above.

Scoopette Adaptations *for* Special Application Uses

The No. 2283X Brackette

(For 15 and 25-Watt G 18½ Standard Base Lamp.)

The 2283X Brackette consists of a Scoopette fitted on a standard lever-key socket with a plate which may be fastened to the wall. A hinge between the plate and the Scoopette is adjustable, and this coupled with the fact that the reflector may be turned to any angle on the socket makes it possible to direct the light at any angle.

Height 4½ inches
Depth 6½ inches
Width 4 inches
Finish black nickel
Standard package 1
Weight 2½ ounces

The No. 2534X Deskette

(For 15 and 25-Watt G 18½ Standard Base Lamp.)

The No. 2534X Deskette is an adaptation of the Scoopette unit for use where general office illumination is not used or where the desk is in a position which is difficult to light. It is designed to give an even distribution of light on the work from such an angle that there is no reflected glare in the worker's eyes. Complete with 6 feet of cord and plug.

Height 15 inches
Depth 7½ inches
Width 4½ inches
Finish black nickel
Standard package 1
Weight 2¼ pounds

The No. 3698X Brackette

(For 15 and 25-Watt G 18½ Standard Base Lamp.)

The No. 3698X Brackette is a Scoopette fitted on an upright standard for use inside bank cages. It throws light on the books at such an angle that it does not reflect the glare into the worker's eyes. On account of its dark finish it is very inconspicuous and makes a neat and efficient appearance. The reflector may be adjusted to any angle.

Height from counter 16 inches
Depth 6 inches
Width 4 inches
Finish black nickel
Standard package 1
Weight 8 ounces

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